GBA 5140 Statistics Essentials for Business Analytics

Problem Set 2

Descriptive Statistics

**Problem 1**

Load “Data-MTCars.csv” into RStudio. Write R code for the following tasks. ***Post your R code and RStudio output (console output or plots output) below each task.***

1. Generate frequency distribution, relative frequency distribution, and percent frequency distribution for variable “cyl”.

Text

Description automatically generatedGraphical user interface, text, application

Description automatically generated with medium confidence

1. Draw bar chart and pie chart of variable “cyl”.

Graphical user interface, text, website

Description automatically generated

Chart, pie chart

Description automatically generatedChart, bar chart

Description automatically generated

1. Determine the appropriate number of bins for variable “mpg” using Sturge’s method, and generate the corresponding frequency distribution, relative frequency distribution, percent frequency distribution, cumulative frequency distribution, cumulative relative frequency distribution, and cumulative percent distribution.

Text

Description automatically generatedText

Description automatically generated with low confidence

1. Draw histogram of variable “mpg”.

Chart, histogram

Description automatically generatedGraphical user interface, text, application

Description automatically generated

1. Determine the appropriate number of bins for variable “mpg” using Sturge’s method, then generate crosstabulation for variables “mpg” and “gear”.

Graphical user interface, text

Description automatically generatedA picture containing calendar

Description automatically generated

1. Draw scatter chart using variables “mpg” (as horizontal axis) and “hp” (as vertical axis), then add the trendline.

Chart, scatter chart

Description automatically generatedGraphical user interface, text, application

Description automatically generated

1. Compute mean, median, minimum, maximum, range, variance, and standard deviation of variable “hp”.

Graphical user interface, text, application

Description automatically generatedText

Description automatically generated

1. Compute covariance and correlation coefficient between variables “mpg” and “hp”.

Text

Description automatically generated with medium confidenceGraphical user interface, text

Description automatically generated